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Toward Paperless Information Systems—F. W. Lancaster (New York: Academic Press, Inc., 1978, 179 pp., hardbound, $13.50).

A paperless information system doesn't imply a paperless society. At least, recreational reading material will still be printed on paper.

The goals of a paperless information (PI) system are to increase accessibility to and speed dissemination of information. Such a system is not justified by the saving due to elimination of paper, though that may seem to be a primary driving force, but rather by the benefits of faster access to a wider, and perhaps deeper, range of information. Even our relatively modest experience with today's limited machine-readable data bases and on-line terminals shows the significantly improved potential for information retrieval compared with a traditional library search.

The transition to a universal information system is inhibited more by practical than by conceptual problems. Cost and management are foremost of these. On-line terminals will need to be as ubiquitous as the telephone; widespread, multinational communication networks, possibly dedicated, have to be established, made cheap to use, and be administered to the satisfaction and profit of both suppliers and users of information. Technological problems seem not as severe, but "language"—querying, translating, etc.—still must be further developed, and graphics (artwork) remains a significant challenge.

Much current communication in engineering and science is via published papers, but currency of results is not generally an attribute of journal publication due to writing, reviewing, revising, publishing, and distribution delays. A PI system is envisioned as allowing "papers" to be composed and organized (i.e., "written") at a terminal and distributed electronically and instantaneously, either privately to interested individuals or publicly to the future counterpart of a journal. In the latter case, "publication" occurs when an editor/publisher is satisfied with the electronic text and releases it commercially in his machine-readable data base. The comments of reviewers could be recorded with the text, comments of later readers could be appended, and accesses to the document could be recorded automatically.

This book is essentially a state-of-the-art overview, concentrating on the last decade, admixed with some not too surprising extrapolations to the year 2000. The author views the replacement of print on paper by electronic media for most forms of human communication as an inevitable, evolutionary process.

After a brief introduction, he reviews the transition from off-line to on-line processing and some of the accomplishments in information retrieval systems. Chapter 3 may be unique in that it describes a prototype PI system developed for use in the U.S. Central Intelligence Agency which accommodates both central files and the personal files of individual analysts.

The characteristics and well known problems (e.g., rising labor and paper costs) of technical information publishing and communication are discussed in chapters 4 and 5, and chapter 6 outlines the paperless way many years hence.

Some signs and symptoms of this evolution (e.g., computerized conferences and automated offices) are listed in chapter 7 and are followed by extensive comments on current and future costs associated with PI systems.

A relatively short chapter 8 is allotted to problems of implementation, and chapter 9 suggests that libraries will continue to exist to serve local interests and to provide free or low cost access to the PI system, often serving as an intellectual bridge between users and access languages.

The bibliography includes 142 items, 65 percent of them published after 1970.

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